SEQUENZPROTOKOLL

<110> Firma Biofrontera GmbH

<120> Transgenic animal model for neurodegenerative diseases

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<170> PatentIn Ver. 2.1

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    Pro Val Asp Ser Val Gly Leu Ala Val Ile Leu Asp Thr Asp Ser Lys
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    Phe Lys Cys Gly Ala His Pro Thr Ser Asp Lys Asp Thr Ser Val Ala
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    Val Ala Gly Cys Pro Asn Ser Leu Ile Lys Glu Leu His His Phe Arg
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Ser Ile Val His Ile Val Gln Arg Pro Arg Arg Ser His Glu Thr
65                  70                  75                  80

Asn Ala Ser Gly Gly Asp Glu Pro Gln Ser Thr Ser Glu Gly Ser Ile
                85                  90                  95

Trp Glu Ser Arg Ser Leu Thr Arg Val Asp Leu Ser Ser His Thr Leu
            100                 105                 110

Pro Val Asp Ser Val Gly Leu Ala Val Ile Leu Asp Thr Asp Ser Lys
            115                 120                 125

Arg Asp Ser Glu Ala Ala Arg Gly Pro Ala Val Lys Pro Thr Tyr Asn
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Ser Phe Phe Ile Tyr Cys Lys Gly Pro Cys His Lys Val Gln Pro Gly
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Lys Leu Arg Val Gln Cys Gly Thr Cys Lys Gln Ala Thr Leu Thr Leu
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Ala Gln Gly Pro Ser Cys Trp Asp Asp Val Leu Ile Pro Asn Arg Met
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Ser Gly Glu Cys Gln Ser Pro Asp Cys Pro Gly Thr Arg Ala Glu Phe
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Phe Phe Lys Cys Gly Ala His Pro Thr Ser Asp Lys Asp Thr Ser Val
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Ala Leu Asn Leu Ile Thr Ser Asn Arg Arg Ser Ile Pro Cys Ile Ala
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Arg Gln Gly Val Pro Ala Asp Gln Leu Arg Val Ile Phe Ala Gly Lys
            35   40   45

Glu Leu Pro Asn His Leu Thr Val Gln Asn Cys Asp Leu Glu Gln Gln
        50   55   60

Ser Ile Val His Ile Val Gln Arg Pro Arg Arg Arg Ser His Glu Thr
65   70   75   80

Asn Ala Ser Gly Gly Asp Glu Pro Gln Ser Thr Ser Glu Gly Ser Ile
                85   90   95

Trp Glu Ser Arg Ser Leu Thr Arg Val Asp Leu Ser Ser His Thr Leu
            100   105   110

Pro Val Asp Ser Val Gly Leu Ala Val Ile Leu Asp Thr Asp Ser Lys
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Arg Asp Ser Glu Ala Ala Arg Gly Pro Ala Val Lys Pro Thr Tyr Asn
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Ser Phe Phe Ile Tyr Cys Lys Gly Pro Cys His Lys Val Gln Pro Gly
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Lys Leu Arg Val Gln Cys Gly Thr Cys Lys Gln Ala Thr Leu Thr Leu
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Ala Gln Gly Pro Ser Cys Trp Asp Asp Val Leu Ile Pro Asn Arg Met
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Ser Gly Glu Cys Gln Ser Pro Asp Cys Pro Gly Thr Arg Ala Glu Phe
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Phe Phe Lys Cys Gly Ala His Pro Thr Ser Asp Lys Asp Thr Ser Val
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<212> DNA
<213> mouse

<400> 10

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<213> mouse

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13

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<213> mouse

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<212> DNA
<213> mouse

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<211> 3253
<212> DNA
<213> mouse
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16

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<211> 3254
<212> DNA
<213> mouse
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<211> 3253
<212> DNA
<213> mouse

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<212> DNA
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<212> DNA
<213> mouse
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<211> 3255
<212> DNA
<213> mouse

<400> 19
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23

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<211> 3255
<212> DNA
<213> mouse

<400> 20

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<212> PRT
<213> mouse

<400> 21

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Arg Gln Gly Val Pro Ala Asp Gln Leu Arg Val Ile Phe Ala Gly Lys
         35                  40                  45

Glu Leu Pro Asn His Leu Thr Val Gln Leu Asn Pro Pro Thr Thr Ala
     50                  55                  60

Phe Ser Ser Thr Ala Lys Ala Pro Ala Thr Arg Ser Ser Leu Glu Ser
 65                  70                  75                  80

Ser Glu Phe Ser Val Ala Pro Ala Asn Lys Gln Pro Ser Pro Trp Pro
                 85                  90                  95

Arg Ala His Leu Ala Gly Thr Met Ser
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<210> 22

<211> 344
<212> PRT
<213> mouse

<400> 22

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 1               5                  10                  15

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             20                  25                  30

Arg Gln Gly Val Pro Ala Asp Gln Leu Arg Val Ile Phe Ala Gly Lys
         35                  40                  45

Glu Leu Pro Asn His Leu Thr Val Gln Gly Pro Ser Cys Trp Asp Asp
     50                  55                  60

Val Leu Ile Pro Asn Arg Met Ser Gly Glu Cys Gln Ser Pro Asp Cys
 65                  70                  75                  80

Pro Gly Thr Arg Ala Glu Phe Phe Phe Lys Cys Gly Ala His Pro Thr
             85                  90                  95

Ser Asp Lys Asp Thr Ser Val Ala Leu Asn Leu Ile Thr Ser Asn Arg
            100                 105                 110

Arg Ser Ile Pro Cys Ile Ala Cys Thr Asp Val Arg Ser Pro Val Leu
        115                 120                 125

Val Phe Gln Cys Asn His Arg His Val Ile Cys Leu Asp Cys Phe His
    130                 135                 140

Leu Tyr Cys Val Thr Arg Leu Asn Asp Arg Gln Phe Val His Asp Ala
145                 150                 155                 160

Gln Leu Gly Tyr Ser Leu Pro Cys Val Ala Gly Cys Pro Asn Ser Leu
            165                 170                 175

Ile Lys Glu Leu His His Phe Arg Ile Leu Gly Glu Glu Gln Tyr Thr
            180                 185                 190

Arg Tyr Gln Gln Tyr Gly Ala Glu Glu Cys Val Leu Gln Met Gly Gly
        195                 200                 205

Val Leu Cys Pro Arg Pro Gly Cys Gly Ala Gly Leu Leu Pro Glu Gln
    210                 215                 220

Gly Gln Arg Lys Val Thr Cys Glu Gly Gly Asn Gly Leu Gly Cys Gly
```

```
        225                 230                 235                 240

     Phe Val Phe Cys Arg Asp Cys Lys Glu Ala Tyr His Glu Gly Asp Cys
                     245                 250                 255

     Asp Ser Leu Leu Glu Pro Ser Gly Ala Thr Ser Gln Ala Tyr Arg Val
                     260                 265                 270

     Asp Lys Arg Ala Ala Glu Gln Ala Arg Trp Glu Glu Ala Ser Lys Glu
                     275                 280                 285

     Thr Ile Lys Lys Thr Thr Lys Pro Cys Pro Arg Cys Asn Val Pro Ile
         290                 295                 300

     Glu Lys Asn Gly Gly Cys Met His Met Lys Cys Pro Gln Pro Gln Cys
     305                 310                 315                 320

     Lys Leu Glu Trp Cys Trp Asn Cys Gly Cys Glu Trp Asn Arg Ala Cys
                     325                 330                 335

     Met Gly Asp His Trp Phe Asp Val
                     340
```

```
<210> 23
<211> 63
<212> PRT
<213> mouse

<400> 23
     Met Ile Val Phe Val Arg Phe Asn Ser Ser Tyr Gly Phe Pro Val Glu
       1               5                  10                  15

     Val Asp Ser Asp Thr Ser Ile Leu Gln Leu Lys Glu Val Val Ala Lys
                     20                  25                  30

     Arg Gln Gly Val Pro Ala Asp Gln Leu Arg Val Ile Phe Ala Gly Lys
                 35                  40                  45

     Glu Leu Pro Asn His Leu Thr Val Gln Leu Ala Val Pro Thr Pro
             50                  55                  60
```

```
<210> 24
<211> 153
<212> PRT
<213> mouse
```

<400> 24

Met Ile Val Phe Val Arg Phe Asn Ser Ser Tyr Gly Phe Pro Val Glu
1   5   10   15

Val Asp Ser Asp Thr Ser Ile Leu Gln Leu Lys Glu Val Val Ala Lys
            20   25   30

Arg Gln Gly Val Pro Ala Asp Gln Leu Arg Val Ile Phe Ala Gly Lys
            35   40   45

Glu Leu Pro Asn His Leu Thr Val Gln Asn Cys Asp Leu Glu Gln Gln
        50   55   60

Ser Ile Val His Ile Val Gln Arg Pro Arg Arg Arg Ser His Glu Thr
65   70   75   80

Asn Ala Ser Gly Gly Asp Glu Pro Gln Ser Thr Ser Glu Gly Ser Ile
                85   90   95

Trp Glu Ser Arg Ser Leu Thr Arg Val Asp Leu Ser Ser His Thr Leu
            100   105   110

Pro Val Asp Ser Val Gly Leu Ala Val Ile Leu Asp Thr Asp Ser Lys
            115   120   125

Arg Asp Ser Glu Ala Ala Arg Gly Pro Gly Pro Ile Leu Leu Gly Arg
            130   135   140

Cys Leu Asn Ser Lys Pro Asp Glu Trp
145   150

<210> 25
<211> 194
<212> PRT
<213> mouse

<400> 25

Met Ile Val Phe Val Arg Phe Asn Ser Ser Tyr Gly Phe Pro Val Glu
1   5   10   15

Val Asp Ser Asp Thr Ser Ile Leu Gln Leu Lys Glu Val Val Ala Lys
            20   25   30

Arg Gln Gly Val Pro Ala Asp Gln Leu Arg Val Ile Phe Ala Gly Lys
            35   40   45

Glu Leu Pro Asn His Leu Thr Val Gln Asn Cys Asp Leu Glu Gln Gln

```
           50                    55                    60

Ser Ile Val His Ile Val Gln Arg Pro Arg Arg Arg Ser His Glu Thr
 65                     70                    75                    80

Asn Ala Ser Gly Gly Asp Glu Pro Gln Ser Thr Ser Glu Gly Ser Ile
                    85                    90                    95

Trp Glu Ser Arg Ser Leu Thr Arg Val Asp Leu Ser Ser His Thr Leu
                   100                   105                   110

Pro Val Asp Ser Val Gly Leu Ala Val Ile Leu Asp Thr Asp Ser Lys
                   115                   120                   125

Arg Asp Ser Glu Ala Ala Arg Gly Pro Val Lys Pro Thr Tyr Asn Ser
                   130                   135                   140

Phe Phe Ile Tyr Cys Lys Gly Pro Cys His Lys Val Gln Pro Gly Lys
145                    150                   155                   160

Leu Arg Val Gln Cys Gly Thr Cys Lys Gln Ala Thr Leu Thr Leu Ala
                   165                   170                   175

Gln Asn Phe Ser Leu Asn Val Glu His Thr Gln Pro Gln Thr Arg Thr
                   180                   185                   190

Arg Arg



<210> 26
<211> 183
<212> PRT
<213> mouse

<400> 26
Met Ile Val Phe Val Arg Phe Asn Ser Ser Tyr Gly Phe Pro Val Glu
  1                    5                    10                    15

Val Asp Ser Asp Thr Ser Ile Leu Gln Leu Lys Glu Val Val Ala Lys
                    20                    25                    30

Arg Gln Gly Val Pro Ala Asp Gln Leu Arg Val Ile Phe Ala Gly Lys
                    35                    40                    45

Glu Leu Pro Asn His Leu Thr Val Gln Asn Cys Asp Leu Glu Gln Gln
                    50                    55                    60
```

```
Ser Ile Val His Ile Val Gln Arg Pro Arg Arg Arg Ser His Glu Thr
65              70              75                  80


Asn Ala Ser Gly Gly Asp Glu Pro Gln Ser Thr Ser Glu Gly Ser Ile
            85              90                  95


Trp Glu Ser Arg Ser Leu Thr Arg Val Asp Leu Ser Ser His Thr Leu
            100             105             110


Pro Val Asp Ser Val Gly Leu Ala Val Ile Leu Asp Thr Asp Ser Lys
            115             120             125


Arg Asp Ser Glu Ala Ala Arg Gly Pro Val Lys Pro Thr Tyr Asn Ser
            130             135             140


Phe Phe Ile Tyr Cys Lys Gly Pro Cys His Lys Val Gln Pro Gly Lys
145             150             155             160


Leu Arg Val Gln Cys Gly Thr Cys Lys Gln Ala Thr Leu Thr Leu Ala
                165             170             175


Gln Leu Ala Val Pro Thr Pro
                180
```

```
<210> 27
<211> 296
<212> PRT
<213> mouse
```

```
<400> 27
Met Ile Val Phe Val Arg Phe Asn Ser Ser Tyr Gly Phe Pro Val Glu
1               5               10                  15


Val Asp Ser Asp Thr Ser Ile Leu Gln Leu Lys Glu Val Val Ala Lys
            20              25                  30


Arg Gln Gly Val Pro Ala Asp Gln Leu Arg Val Ile Phe Ala Gly Lys
            35              40                  45


Glu Leu Pro Asn His Leu Thr Val Gln Asn Cys Asp Leu Glu Gln Gln
    50              55                  60


Ser Ile Val His Ile Val Gln Arg Pro Arg Arg Arg Ser His Glu Thr
65              70              75                  80


Asn Ala Ser Gly Gly Asp Glu Pro Gln Ser Thr Ser Glu Gly Ser Ile
            85              90                  95
```

30

Trp Glu Ser Arg Ser Leu Thr Arg Val Asp Leu Ser Ser His Thr Leu
        100   105   110

Pro Val Asp Ser Val Gly Leu Ala Val Ile Leu Asp Thr Asp Ser Lys
        115   120   125

Arg Asp Ser Glu Ala Ala Arg Gly Pro Val Lys Pro Thr Tyr Asn Ser
        130   135   140

Phe Phe Ile Tyr Cys Lys Gly Pro Cys His Lys Val Gln Pro Gly Lys
145   150   155   160

Leu Arg Val Gln Cys Gly Thr Cys Lys Gln Ala Thr Leu Thr Leu Ala
                165   170   175

Gln Gly Pro Ser Cys Trp Asp Asp Val Leu Ile Pro Asn Arg Met Ser
                180   185   190

Gly Glu Cys Gln Ser Pro Asp Cys Pro Gly Thr Arg Ala Glu Phe Phe
                195   200   205

Phe Lys Cys Gly Ala His Pro Thr Ser Asp Lys Asp Thr Ser Val Ala
        210   215   220

Leu Asn Leu Ile Thr Ser Asn Arg Arg Ser Ile Pro Cys Ile Ala Cys
225   230   235   240

Thr Asp Val Arg Ser Pro Val Leu Val Phe Gln Cys Asn His Arg His
                245   250   255

Val Ile Cys Leu Asp Cys Phe His Leu Tyr Cys Val Thr Arg Leu Asn
                260   265   270

Asp Arg Gln Phe Val His Asp Ala Gln Leu Gly Tyr Ser Leu Pro Cys
        275   280   285

Val Val Cys Phe Leu Pro Gly Leu
        290   295

<210> 28
<211> 37
<212> PRT
<213> mouse

<400> 28
Met Ile Val Phe Val Arg Phe Asn Ser Ser Tyr Gly Phe Pro Val Glu

```
              1                   5                        10                          15

        Val Asp Ser Asp Thr Ser Ile Leu Gln Leu Lys Glu Val Val Ala Lys
                        20                      25                  30

        Arg Arg Gly Ser Ser
                    35
```

<210> 29
<211> 53
<212> PRT
<213> mouse

<400> 29

```
        Met Ile Val Phe Val Arg Phe Asn Ser Ser Tyr Gly Phe Pro Val Glu
         1                   5                       10                      15

        Val Asp Ser Asp Thr Ser Ile Leu Gln Leu Lys Glu Val Val Ala Lys
                        20                      25                  30

        Arg Gln Gly Val Pro Ala Asp Gln Leu Arg Val Ile Phe Ala Gly Lys
                    35                      40                  45

        Glu Leu Pro Ile Thr
                50
```

<210> 30
<211> 77
<212> PRT
<213> mouse

<400> 30

```
        Met Ile Val Phe Val Arg Phe Asn Ser Ser Tyr Gly Phe Pro Val Glu
         1                   5                       10                      15

        Val Asp Ser Asp Thr Ser Ile Leu Gln Leu Lys Glu Val Val Ala Lys
                        20                      25                  30

        Arg Gln Gly Val Pro Ala Asp Gln Leu Arg Val Ile Phe Ala Gly Lys
                    35                      40                  45

        Glu Leu Pro Asn His Leu Thr Val Gln Asn Cys Asp Leu Glu Gln Gln
            50                      55                  60

        Ser Ile Val His Ile Val Gln Arg Pro Arg Glu Lys Ser
        65                      70                  75
```

<210> 31
<211> 14
<212> PRT
<213> mouse

<400> 31
Met Ile Val Thr Val Thr Trp Asn Asn Arg Val Leu Tyr Thr
  1   5   10

<210> 32
<211> 464
<212> PRT
<213> mouse

<400> 32
Met Ile Val Phe Val Arg Phe Asn Ser Ser Tyr Gly Phe Pro Val Glu
  1   5   10   15

Val Asp Ser Asp Thr Ser Ile Leu Gln Leu Lys Glu Val Val Ala Lys
                20   25   30

Arg Gln Gly Val Pro Ala Asp Gln Leu Arg Val Ile Phe Ala Gly Lys
            35   40   45

Glu Leu Pro Asn His Leu Thr Val Gln Asn Cys Asp Leu Glu Gln Gln
        50   55   60

Ser Ile Val His Ile Val Gln Arg Pro Arg Arg Arg Ser His Glu Thr
65   70   75   80

Asn Ala Ser Gly Gly Asp Glu Pro Gln Ser Thr Ser Glu Gly Ser Ile
                85   90   95

Trp Glu Ser Arg Ser Leu Thr Arg Val Asp Leu Ser Ser His Thr Leu
            100   105   110

Pro Val Asp Ser Val Gly Leu Ala Val Ile Leu Asp Thr Asp Ser Lys
            115   120   125

Arg Asp Ser Glu Ala Ala Arg Gly Pro Val Lys Pro Thr Tyr Asn Ser
        130   135   140

Phe Phe Ile Tyr Cys Lys Gly Pro Cys His Lys Val Gln Pro Gly Asn
145   150   155   160

33

```
Leu Arg Val Gln Cys Gly Thr Cys Lys Gln Ala Thr Leu Thr Leu Ala
                165             170             175

Gln Gly Pro Ser Cys Trp Asp Asp Val Leu Ile Pro Asn Arg Met Ser
                180             185             190

Gly Glu Cys Gln Ser Pro Asp Cys Pro Gly Thr Arg Ala Glu Phe Phe
                195             200             205

Phe Lys Cys Gly Ala His Pro Thr Ser Asp Lys Asp Thr Ser Val Ala
    210             215             220

Leu Asn Leu Ile Thr Ser Asn Arg Arg Ser Ile Pro Cys Ile Ala Cys
225             230             235             240

Thr Asp Val Arg Ser Pro Val Leu Val Phe Gln Cys Asn His Arg His
                245             250             255

Val Ile Cys Leu Asp Cys Phe His Leu Tyr Cys Val Thr Arg Leu Asn
                260             265             270

Asp Arg Gln Phe Val His Asp Ala Gln Leu Gly Tyr Ser Leu Pro Cys
                275             280             285

Val Ala Gly Cys Pro Asn Ser Leu Ile Lys Glu Leu His His Phe Arg
    290             295             300

Ile Leu Gly Glu Glu Gln Tyr Thr Arg Tyr Gln Gln Tyr Gly Ala Glu
305             310             315             320

Glu Cys Val Leu Gln Met Gly Gly Val Leu Cys Pro Arg Pro Gly Cys
                325             330             335

Gly Ala Gly Leu Leu Pro Glu Gln Gly Gln Arg Lys Val Thr Cys Glu
                340             345             350

Gly Gly Asn Gly Leu Gly Cys Gly Phe Val Phe Cys Arg Asp Cys Lys
                355             360             365

Glu Ala Tyr His Glu Gly Asp Cys Asp Ser Leu Leu Glu Pro Ser Gly
    370             375             380

Ala Thr Ser Gln Ala Tyr Arg Val Asp Lys Arg Ala Ala Glu Gln Ala
385             390             395             400

Arg Trp Glu Glu Ala Ser Lys Glu Thr Ile Lys Lys Thr Thr Lys Pro
                405             410             415
```

34

```
Cys Pro Arg Cys Asn Val Pro Ile Glu Lys Asn Gly Gly Cys Met His
        420             425                 430

Met Lys Cys Pro Gln Pro Gln Cys Lys Leu Glu Trp Cys Trp Asn Cys
        435             440                 445

Gly Cys Glu Trp Asn Arg Ala Cys Met Gly Asp His Trp Phe Asp Val
    450             455                 460
```

<210> 33
<211> 464
<212> PRT
<213> mouse

<400> 33

```
Met Ile Val Phe Val Arg Phe Asn Ser Ser Tyr Gly Phe Pro Val Glu
1               5               10                  15

Val Asp Ser Asp Thr Ser Ile Leu Gln Leu Lys Glu Val Val Ala Lys
            20              25                  30

Arg Gln Gly Val Pro Ala Asp Gln Leu Arg Val Ile Phe Ala Gly Lys
            35              40                  45

Glu Leu Pro Asn His Leu Thr Val Gln Asn Cys Asp Leu Glu Gln Gln
        50              55                  60

Ser Ile Val His Ile Val Gln Arg Pro Arg Arg Arg Ser His Glu Thr
65              70                  75                  80

Asn Ala Ser Gly Gly Asp Glu Pro Gln Ser Thr Ser Glu Gly Ser Ile
                85              90                  95

Trp Glu Ser Arg Ser Leu Thr Arg Val Asp Leu Ser Ser His Thr Leu
            100             105                 110

Pro Val Asp Ser Val Gly Leu Ala Val Ile Leu Asp Thr Asp Ser Lys
            115             120                 125

Arg Asp Ser Glu Ala Ala Arg Gly Pro Val Lys Pro Thr Tyr Asn Ser
        130             135                 140

Phe Phe Ile Tyr Cys Lys Gly Pro Cys His Lys Val Gln Pro Gly Lys
145             150                 155                 160
```

```
Leu Arg Val Gln Cys Gly Thr Cys Lys Gln Ala Thr Leu Thr Leu Ala
              165                 170                 175

Gln Gly Pro Ser Cys Trp Asp Asp Val Leu Ile Pro Asn Arg Met Ser
              180                 185                 190

Gly Glu Cys Gln Ser Pro Asp Cys Pro Gly Thr Arg Ala Glu Phe Phe
              195                 200                 205

Phe Lys Cys Gly Ala His Pro Thr Ser Asp Lys Asp Thr Ser Val Ala
    210                 215                 220

Leu Asn Leu Ile Thr Ser Asn Arg Arg Ser Ile Pro Cys Ile Ala Cys
225                 230                 235                 240

Thr Asp Val Arg Ser Pro Val Leu Val Phe Gln Cys Asn His Arg His
              245                 250                 255

Val Ile Cys Leu Asp Cys Phe His Leu Tyr Cys Val Thr Arg Leu Asn
              260                 265                 270

Asp Arg Gln Phe Val His Asp Ala Gln Leu Gly Tyr Ser Leu Pro Cys
              275                 280                 285

Val Ala Gly Cys Pro Asn Ser Leu Ile Lys Glu Leu His His Phe Arg
    290                 295                 300

Ile Leu Gly Glu Glu Gln Tyr Thr Arg Tyr Gln Gln Tyr Gly Ala Glu
305                 310                 315                 320

Glu Cys Val Leu Gln Met Gly Gly Val Leu Cys Pro Arg Pro Gly Cys
              325                 330                 335

Gly Ala Gly Leu Leu Pro Glu Gln Gly Gln Arg Lys Val Thr Cys Glu
              340                 345                 350

Gly Gly Asn Gly Leu Gly Cys Gly Phe Val Phe Cys Arg Asp Cys Lys
              355                 360                 365

Glu Ala Tyr His Glu Gly Asp Cys Asp Ser Leu Leu Glu Pro Ser Gly
    370                 375                 380

Ala Thr Ser Gln Ala Tyr Arg Val Asp Lys Arg Ala Ala Glu Gln Ala
385                 390                 395                 400

Arg Trp Glu Glu Ala Ser Lys Glu Thr Ile Lys Lys Thr Asn Lys Pro
              405                 410                 415
```

36

```
Cys Pro Arg Cys Asn Val Pro Ile Glu Lys Asn Gly Gly Cys Met His
          420                 425                 430

Met Lys Cys Pro Gln Pro Gln Cys Lys Leu Glu Trp Cys Trp Asn Cys
          435                 440                 445

Gly Cys Glu Trp Asn Arg Ala Cys Met Gly Asp His Trp Phe Asp Val
    450                 455                 460
```

<210> 34
<211> 451
<212> PRT
<213> mouse

<400> 34
```
Met Ile Val Phe Val Arg Phe Asn Ser Ser Tyr Gly Phe Pro Val Glu
    1                 5                 10                  15

Val Asp Ser Asp Thr Ser Ile Leu Gln Leu Lys Glu Val Val Ala Lys
              20                  25                  30

Arg Gln Gly Val Pro Ala Asp Gln Leu Arg Val Ile Phe Ala Gly Lys
              35                  40                  45

Glu Leu Pro Asn His Leu Thr Val Gln Asn Cys Asp Leu Glu Gln Gln
    50                  55                  60

Ser Ile Val His Ile Val Gln Arg Pro Arg Arg Arg Ser His Glu Thr
65                  70                  75                  80

Asn Ala Ser Gly Gly Asp Glu Pro Gln Ser Thr Ser Glu Gly Ser Ile
              85                  90                  95

Trp Glu Ser Arg Ser Leu Thr Arg Val Asp Leu Ser Ser His Thr Leu
              100                 105                 110

Pro Val Asp Ser Val Gly Leu Ala Val Ile Leu Asp Thr Asp Ser Lys
              115                 120                 125

Arg Asp Ser Glu Ala Ala Arg Gly Pro Val Lys Pro Thr Tyr Asn Ser
    130                 135                 140

Phe Phe Ile Tyr Cys Lys Gly Pro Cys His Lys Val Gln Pro Gly Lys
```

```
        145                    150                    155                    160

        Leu Arg Val Gln Cys Gly Thr Cys Lys Gln Ala Thr Leu Thr Leu Ala
                        165              170              175

        Gln Gly Pro Ser Cys Trp Asp Asp Val Leu Ile Pro Asn Arg Met Ser
                        180              185              190

        Gly Glu Cys Gln Ser Pro Asp Cys Pro Gly Thr Arg Ala Glu Phe Phe
                        195              200              205

        Phe Lys Cys Gly Ala His Pro Thr Ser Asp Lys Asp Thr Ser Val Ala
                210              215              220

        Leu Asn Leu Ile Thr Ser Asn Arg Arg Ser Ile Pro Cys Ile Ala Cys
        225              230              235              240

        Thr Asp Val Arg Ser Pro Val Leu Val Phe Gln Cys Asn His Arg His
                        245              250              255

        Val Ile Cys Leu Asp Cys Phe His Leu Tyr Cys Val Thr Arg Leu Asn
                        260              265              270

        Asp Arg Gln Phe Val His Asp Ala Gln Leu Gly Tyr Ser Leu Pro Cys
                        275              280              285

        Val Ala Gly Cys Pro Asn Ser Leu Ile Lys Glu Leu His His Phe Arg
                290              295              300

        Ile Leu Gly Glu Glu Gln Tyr Thr Arg Tyr Gln Gln Tyr Gly Ala Glu
        305              310              315              320

        Glu Cys Val Leu Gln Met Gly Gly Val Leu Cys Pro Arg Pro Gly Cys
                        325              330              335

        Gly Ala Gly Leu Leu Pro Glu Gln Gly Gln Arg Lys Val Thr Cys Glu
                        340              345              350

        Gly Gly Asn Gly Leu Gly Cys Gly Phe Val Phe Cys Arg Asp Cys Lys
                        355              360              365

        Glu Ala Tyr His Glu Gly Asp Cys Asp Ser Leu Leu Glu Pro Ser Gly
                370              375              380

        Ala Thr Ser Gln Ala Tyr Arg Val Asp Lys Arg Ala Ala Glu Gln Ala
        385              390              395              400

        Arg Trp Glu Glu Ala Ser Lys Glu Thr Ile Lys Lys Thr Thr Lys Pro
```

38

```
                 405                          410                          415

Cys Pro Arg Cys Asn Val Pro Ile Glu Lys Asn Gly Gly Cys Met His
            420                 425                 430


Met Lys Cys Pro Gln Pro Gln Cys Lys Leu Glu Trp Cys Trp Asn Cys
            435                 440                 445


Gly Cys Glu
    450
```